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Editor - Captain L. B. Marshall, MC, USN

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TABLE OF CONTENTS

Policy

The U. S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be nor susceptible to use by any officer as a substitute for any item or article in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

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Agranulocytosis Caused by Phenylbutazone and 4-amino-antipyrine

Several reports have appeared in the American literature concerning the use of phenylbutazone (butazolidin) in the treatment of rheumatoid arthritis and other rheumatic conditions. Reference has been made in these reports to anemia, leukopenia, and thrombocytopenia. Up to the present time 5 cases of agranulocytosis have been reported. The chemical structure of phenylbutazone is closely related to that of aminopyrine which long has been known to cause agranulocytosis. The physician who administers phenylbutazone has been cautioned to obtain complete blood counts at weekly intervals, especially during the early phase of treatment.

Another compound closely related to aminopyrine which has been used in the treatment of arthritic diseases is 4-amino-antipyrine. Reports of severe leukopenia or agranulocytosis after its use have not been recorded but chemical similarity of this drug to aminopyrine suggests such a likelihood.

Agranulocytosis after the use of the new antirheumatic drugs, phenylbutazone and 4-amino-antipyrine, has been observed. The granulocytes were the only element of the blood which was affected. In each case approximately 2 months of continuous administration of the drug preceded the onset of agranulocytosis. Recovery after withdrawal of the drug was prompt. The hazard of this serious complication must be considered when drugs which are chemically related to aminopyrine are used.

There is one other point that the authors emphasize. In the literature on drugs which are being introduced from time to time, the statement is often made that the drugs are without hematologic effect. The authors point out that while the statement may be true for the 100 cases that the reporter is accounting for in his paper, he has no right, on the basis of such a com-

paratively few cases, to infer that the drug does not have any effect on the bone marrow. Clinical testing is most unsatisfactory from the standpoint of determining whether or not a drug will produce granulocytopenia, and it requires observation of many thousands of cases to determine whether or not the marrow is going to be seriously affected. A review of the history of all the sulfonamide drugs will show that as each drug was discovered each was said to be without effect on the blood and yet it took only a few months before reports appeared in the literature of such diseases as granulocytopenia, thrombocytopenia, hemolytic anemia, and many others which can occur with the use of sulfonamide drugs. This same thing, of course, is true with chloramphenicol, although the advertising persists in stating that chloramphenicol is basically a harmless drug. This is a statement with which the authors cannot agree, because they are of the opinion that it produces aplastic anemia. The difficulty is that with a drug such as chloramphenicol the reaction commonly is not an immediate one, as it is in cases of granulocytopenia, but rather the reaction and its recognition are far removed, as a rule, from the time of administration of the drug. At least in cases such as those reported in this article, the patient almost invariably has some sharp reaction which leads the physician to suspect that something is wrong. In the administration of any new drug, the possibility of some effect on the bone marrow and the peripheral blood must be considered. (Proc. Staff Meet., Mayo Clin., June 17, 1953, J. M. Kiely and J. M. Stickney)

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Anticonvulsants

Sixty-four patients with epilepsy, all previously treated with standard anticonvulsant medications without much success were given one or more of the compounds, Mysoline, Milontin, and 1461L.

Mysoline is an effective drug for all types of seizures but is most effective in convulsions. Because Mysoline is apparently not seriously toxic, it is preferable to phenacemide in the treatment of psychomotor epilepsy. The authors now use Mysoline when dilantin and phenobarbital have failed in a patient with psychomotor epilepsy and then proceed to phenacemide if Mysoline also fails. Mysoline appears to work well in conjunction with other medicines. Toxic signs of dizziness, nausea, vomiting, and ataxia appear early (usually after 1 tablet) and disappear rapidly when the medication is discontinued. Toxic signs are easily recognized. Side effects of drowsiness usually disappear in a week and may be counteracted with benzedrine, although occasionally the medicine must be discontinued. The average

effective dose appears to be 500 to 750 mg. when the drug is used with other medicines and 750 mg. to 1 gram when it is used alone.

Milontin, 1.5 gram a day, markedly reduces seizures in the petit mal triad and in psychomotor groups to a significant extent. It appears to have little effect on convulsions unless they are a direct result of the psychomotor or petit mal attacks. Higher dosages and a greater number of patients must be utilized before a definite answer can be given. The toxicity of Milontin appears to be low.

Because of the small number of patients on 1461L no concrete conclusions could be drawn. One patient with petit mal was completely controlled, whereas convulsions were made worse in another as the petit mal was improved. In 50% of the patients seizures were unchanged or became worse. No toxic signs were found. These investigations are continuing and more preparations are being tried. It is expected that more definite conclusions can be drawn at a later date. (M. Ann. District of Columbia, June 1953, B. Smith and F. M. Forster)

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Management of Diabetes

In the 30 years since the discovery of insulin the emphasis in management of diabetes has shifted from the problem of merely keeping the diabetic alive, to the larger one of assuring him a long and active life. During this period the basic fundamentals of treatment, diet, and insulin, have undergone only slight modification, but two important facts in the natural history of diabetes have come to be recognized. First, it has been found that the incidence of the degenerative complications of diabetes increases not only with the duration of the disease, but also with its degree of control. Second, it is now generally realized that there are many diabetics whose disease goes undetected for years. Despite the usual mildness of such cases, the degenerative complications are as common as in severe diabetics, and in fact often produce the symptom which leads finally to the diagnosis of diabetes.

The recognition of these facts has emphasized the importance of keeping the known diabetic under the best possible control, and of discovering the unsuspected case of diabetes at the earliest possible moment. The widespread distribution of diabetes makes it imperative for the practicing physician to have a clear understanding of the principles of diagnosis and treatment of the disease, because it is on him that the responsibility of increased diabetes detection and improved treatment will fall. This article presents an outline of the management of diabetes and discusses the problems that are commonly encountered by the physician in treating diabetics in the office and the home.

Diabetes may vary greatly in severity and can change quickly from a relatively mild to a very serious condition. Faced with a newly diagnosed case, the physician must therefore attempt an immediate evaluation of the diabetic state of his patient. The mild case is easily recognized as the one with no symptoms, with only a moderate degree of glycosuria, and a blood sugar in the range of 120 to 200 mg. per 100 cc. With these findings it is probable that the patient will be satisfactorily regulated by a diet of restricted carbohydrate and calories. The presence of symptoms, such as thirst, polyuria, weight loss, and weakness of moderate degree indicates a more severe diabetes, and is usually associated with intense glycosuria and a blood sugar between 200 and 300 mg. per 100 cc. These findings suggest the need for insulin, but if the history shows a gross indulgence in starches and sweets, it is possible that diet restriction alone will suffice to control the symptoms and bring the blood sugar to normal.

Severe diabetes is suggested when such symptoms are accentuated and when dehydration is evident. If the blood sugar is over 300 mg. per 100 cc., or if the patient appears to be ill, it is usually wise not to attempt regulation in the office. The patient with these findings may quickly slip into a state of diabetic keto-acidosis, and should be sent to the hospital where he can be under close observation to prevent this serious development. Hospitalization is also recommended for patients whose diabetes is complicated by severe intercurrent disease (for example, an infection with fever) or when the cooperation or the intelligence of the patient and his family is in doubt. The detection of acetone in the urine or on the breath is of some help in evaluating the immediate diabetic state. It is rarely found in mild cases, but is a common finding in moderate cases, and is almost invariably present when coma is threatened. The presence of acetone, therefore, should keep the physician alert to the possibility of a worsening diabetic state, but need not of itself be considered an alarming finding.

Whether the patient is to be regulated in the hospital or in the office, the principles of treatment are similar. A suitable diet is prescribed, and when indicated the patient is started on a daily dose of insulin. In addition, the patient must receive instruction in the management of a disease which will be with him the rest of his life.

Every new diabetic should be thoroughly instructed in the nature of diabetes and its treatment. The properly trained diabetic is much better prepared to take his condition seriously and to ccoperate in the efforts of the physician to keep the diabetes well regulated. The attitude of the physician is of the greatest importance in this respect, as the patient will quickly adopt as his own the point of view of his physician. The process of educating the patient should be a gradual and continuous one. In the first few days of treatment, the patient has a great deal to learn--the details of the diet, how to test the urine, and the technique of insulin injection. Later he must learn how to recognize and treat insulin reactions, what steps to

take in case of some acute illness, and the necessity for frequent urine tests and for periodic checks with his physician. Of particular importance to patients in middle age and beyond is instruction in the care of the feet, and in the avoidance of the common mistakes that lead to infection and gangrene.

Instruction in diabetes is primarily the responsibility of the physician, and the success of treatment will largely depend on his willingness to devote the necessary time to it. The patient should also own one of the excellent manuals for diabetics and should be urged to re-read it from time to time in order to keep fresh in his mind the many intricacies entailed in proper management. He might also subscribe to the magazine for diabetics, the "A. D. A. Forecast," which will acquaint him with the problems of other diabetics, and keep him informed on recent developments in treatment. (Geriatrics, June 1953, R. Harwood)

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Polyvinylpyrrolidone in Severe Burn Shock

Polyvinylpyrrolidone (PVP) is a useful agent in the treatment of early burn shock, as first attested to in 1941 by Schulz and Orator. Subsequently others have described its effectiveness. The hydrophilic character and osmotic activity of PVP are factors which increase and maintain circulating blood volume. Furthermore the ability of the PVP molecule to bind or adsorb toxins may give it additional value in combating burn toxicity. These reported experiences plus the additional consideration that PVP is inexpensive, completely sterilizable, producible in unlimited quantities, nonantigenic, and well tolerated by the patient assure PVP an important role in burn therapy.

The authors describe their experiences at the Harlem Hospital, New York City, with the use of PVP-macrose (a 3.5% PVP in Ringer's solution), in the treatment of 8 severely burned patients. This group of cases includes 4 males and 4 females, with ages ranging from 4 to 54 years. The areas involved by the burns varied from 20 to 75% of the body surface as estimated by the method of Lund and Browder. Volumes of PVP from 1,000 to 3,000 cc. were infused in periods of time from 1 to 8-1/2 hours.

In all cases treated with PVP on admission there was definite recovery from shock, decrease in hematocrit, improvement of toxicity, and increases in urinary output. In 3 cases the gross hemoglobinuria cleared in periods of 12, 15, and 48 hours respectively. The improvement of the patient and the fall in hematocrit were not maintained as well as in the hemorrhagic and traumatic shock. This is readily understood by the large and continued fluid and protein loss from the burned areas. The fall in hematocrit and the dilution of the peripheral blood and plasma were, in turn, followed by a secondary rise to approximately their initial levels, in periods of 6 to

36 hours, depending on the severity and extent of the burn. In no case did the authors fail to observe immediate improvement with fall in hematocrit. Of the 4 patients in this series who succumbed, none died from early burn shock, hemoconcentration, or toxicity.

The blood volumes measured in 4 cases revealed definite increases in 6 to 48 hours following administration of PVP-macrose. No significant alteration in blood electrolytes followed infusions of PVP. The urinary excretion curves showed a similar pattern, with an early rapid loss of PVP, which later tapered off. Within 24 hours approximately 50 to 70% of the infused material appeared inthe urine.

Three patients with laboratory evidence of impairment of liver function died. The foamy appearance of the Kupffer cell cytoplasm, and the bluish inclusion material seen microscopically in both liver and spleen at necropsy in 1 case are in agreement with the previously reported findings of Schoen. Microscopic study of the tissues of the other patients who died did not reveal these inclusions. In 4 patients, 1 of whom died, there was no laboratory evidence of impaired liver function.

A sharp plasma protein decrease occurred in 2 patients. This may be related to the PVP therapy, coupled with the losses from the burn and impairment of liver function. Heilmeyer and Weese have presented evidence that whenever the circulating plasma is made slightly hyperosmotic with an infusion of PVP, or when PVP is administered in states of protein depletion (as in burns), the plasma albumin is decreased by an amount equivalent oncotically to the PVP in the plasma. This factor may have been in operation in the 2 cases cited in which plasma albumin values fell to 2.05 grams per 100 cc. and 1.6 grams per 100 cc. on the twelfth and fifth hospital days respectively, suggesting that early hypoproteinemia must be watched for and guarded against in using PVP-macrose in these cases.

There was no evidence of toxicity referable to the PVP administered. One apparent reaction after a PVP infusion seemed more likely to be due to the increase in blood volume with toxins from burned areas drawn into the blood stream.

The decrease in serum albumin must be watched for, and guarded against, with adequate diet, intravenous plasma, albumin, and blood transfusions along with early skin grafting.

The authors' results substantiate previously published experiences and indicate that PVP is a valuable adjunct in the early treatment of burns. (Surg., Gynec. & Obst., July 1953, J. W. V. Cordice, Jr., J. E. Suess, and J. Scudder)

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The printing of this publication has been approved by the Director of the Bureau of the Budget, June 23, 1952.

Regional Enteritis

Since the original report in 1932 of Crohn and his associates on this subject many reports have appeared in the literature. In spite of this, their original report continues to remain the most accurate and complete treatise on this subject.

The disease entity remains obscure as to the etiologic factor or factors. In the past 20 years innumerable reports have definitely established that the process is not necessarily limited to the terminal ileum. Any segment of the small bowel and even portions of the ascending colon become involved. The disease process is of a nonspecific nature, and because of this fact, a variety of terms have been used to describe it: regional ileitis, terminal ileitis, chronic cicatrizing enteritis, segmental enteritis, nonspecific granuloma of the intestine, chronic ulcerative ileitis, Crohn's disease, chronic enteritis, ileocolitis, and pseudo-cancer.

Regional enteritis is a chronic disease which exists for a long period of time before a diagnosis is established. In the acute phase it presents a problem of an acute condition of the abdomen and is frequently diagnosed as acute appendicitis preoperatively. Controversy exists as to whether or not an appendectomy should be performed during the acute early stages of the disease. In this series of 5 cases in the acute phase 4 appendectomies were performed without any serious sequelae.

This is a disease which has frequent recurrences, estimated in some series to be as high as 20 to 25%.

It appears inadvisable to leave advanced disease in an abdomen even though it has been sidetracked. In other diseases with an advanced pathologic condition an attempt is made to remove it. This diseased segment of bowel can be a source of further trouble and can cause continued bowel irritation and activity; a focus for absorption of toxic products and possible spread to other segments of uninvolved bowel. In this connection it is imperative that if a resection is performed it be carried beyond the limits of disease into normal segments of the bowel. "Skip areas" must be carefully watched for and these segments removed. It is possible that the recurrences which have been reported are actually "skip areas" which have been overlooked at the time of the original surgery and have progressed at a later date to the more advanced stages of the disease.

Dennis and Thorek have advocated vagotomy in the treatment of selected cases of regional enteritis. It is the senior author's opinion that such a procedure has some degree of merit. However, it appears that a more advanced step in this direction would be more feasible if the basic physiology and nerve distribution to the gastrointestinal tract is considered.

There appears to be a close correlation between peptic ulcer, ulcerative colitis, nonspecific granuloma of the colon, and regional enteritis. These conditions seem more likely to occur in patients who reveal insta-

bility of the autonomic nervous system. The disease complex is dependent upon that portion or division of the autonomic nervous pathways previously involved in such a disturbance. It is possible that the disease process or changes which occur are primarily initiated by changes mediated through abnormal stimulation of the autonomic nervous system.

Regional enteritis continues to be a disease of nonspecificity, the etiology being unknown. It may involve any segment of the small bowel and/or the right half of the colon. The disease progresses through several stages, and requires surgical intervention when it reaches the advanced stages.

In the advanced stages a one-stage resection of the portions of bowel involved and an ileotransverse colostomy appears to be the treatment of choice. In poor risk patients and/or in those cases in which the disease process cannot be resected with safety a short-circuiting operation consisting of complete ileal exclusion with an ileotransverse colostomy is the procedure of choice. (Am. J. Surg., July 1953, L. T. Palumbo and S. C. Wittmer)

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Volkmann's Ischemic Contracture

The disfiguring deformity, with clawlike hand, shortened, fibrotic, and dead flexor muscles of the forearm, often associated with paralysis and serious disability, was first described by Volkmann in 1869. He ascribed it to obstruction of the arterial blood supply, with concomitant loss of oxygen to the muscle tissue, venous stasis, coagulation, and death of the muscle tissue. He considered tight bandages a factor in the production of the deformity and was not optimistic as to the results of treatment. Numerous reports of cases and contributions to the cause, pathologic aspects, and treatment of the condition have been published since Volkmann's time, but no author has claimed a method of cure applicable to all types or degrees of this contracture.

Volkmann's ischemic contracture occurs most commonly as a complication of supracondylar fractures of the humerus in children. The acute flexed position of the elbow after reduction of the fracture is an important factor in increasing the intrinsic pressure of the arm.

The author's opinion is that the use of conservative measures, instituted early, may prevent or to a large degree limit the extent of damage to the nerves and muscles after the initial trauma. The extension type of supracondylar fracture of the humerus occurs most commonly in children; it is in such a fracture that Volkmann's ischemic contracture occurs with the greatest frequency. In a series of 128 cases, the author reported, the average age of the patients was 8.4 years; the incidence was greater (71%)

among boys; among girls it was 29%. The humerus had been fractured in 62% of cases. Unless it is corrected, the deformity and disability tend to become more evident and permanent loss of function may ensue.

The physician in charge of such a patient and the parents of the child concerned become much disquieted when treatment fails to bring about improvement, and they often seek consultation. The time that has elapsed since the infliction of trauma, the cooperation of the parents and the patient, the position of the fragments of the fractured humerus, the extent of damage to the soft tissues, and the thoroughness with which methods of treatment are carried out--all are important factors which influence the prognosis and results of treatment.

Not one but several factors are involved in the production of Volkmann's ischemic contracture. These factors consist of injury in association with supracondylar fracture, intrinsic or extrinsic pressure or both, inhibited venous outflow while a slight arterial inflow continues, combined with immobilization, hematoma, lymph stasis, and edema. These prevent oxygenation of the soft tissues of the forearm, with resulting degeneration, fibrosis, and necrosis and replacement of the normal muscle by shortened inelastic scar tissue.

Constant care in maintaining an adequate circulation of the soft tissues is the most important prophylactic measure in the prevention of Volkmann's ischemic contracture during the treatment of children who have supracondylar fractures. The fracture should be accurately reduced and maintained in the corrected position without impairment of the circulation. To accomplish this, resort to skeletal traction or external or internal fixation may be necessary. The loosening of dressings and the removal of splints may result in displacement of the reduced fragments and result in malunion.

Roentgenograms should be made before and after reduction, in both the lateral and the anteroposterior position, and at intervals during treatment; these roentgenograms should be preserved.

Records as to the time of injury, physical observations, and type of treatment used should be made; especial attention should be paid to the condition of the pulse, and evidence of paralysis, if present, should be recorded. The initial injury may have ruptured blood vessels or nerves. Volkmann's ischemic contracture can occur in cases in which no physician has seen or treated the patient; in such instances it is a result of trauma, fracture, hemophilia, infection, or circulatory disease. Hematoma following an injury without fracture but with lymph stasis and intrinsic pressure produces edema which may be of such degree as to interfere with the blood supply. It thus causes degeneration, fibrosis, or necrosis of the muscles. Reduction of the fracture may be temporarily delayed while measures to preserve the viability of the soft tissues are carried out. Function of the arm and hand is more important than perfect union of the fracture.

When a feeble or absent pulse persists in spite of changing of dressings and position of the elbow, no time is to be lost in resorting to surgical

treatment. The most important benefits then result from the making of a long incision medial to the palmaris longus muscle, through the deep vaginal fascia, and drainage of the hematoma. Extension of the incision permits section of the bicipital fascia, inspection of the brachial artery and reduction of the fracture followed by internal fixation.

The treatment of Volkmann's ischemic contracture varies, depending on the interval since injury, the degree of degeneration of the soft tissues, whether or not blood vessels and nerves have been ruptured, the degree of deformity, and whether or not malunion is present. Various forms of treatment are discussed. Emphasis is placed on the value of conservative measures, such as gradual stretching and physiotherapy. (J. Internat. Coll. Surgeons, June 1953, H. W. Meyerding)

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Nature of Bleeding in Esophageal Varices

The mechanism by which hemorrhage occurs in cases of portal hypertension has always been a difficult probelm for both the pathologist and the clinician. The widely accepted thesis that bleeding from esophageal varices is the result of increased hydrostatic venous pressure with a subsequent mechanical rupture of a varix into the lumen of the esophagus has always been difficult to accept. Tremendously dilated and poorly supported veins also occur in the peritoneal cavity of patients with portal hypertension, and they are also constantly observed in the proximal portion of the esophagus in patients with obstruction of the superior vena cava, and yet, in spite of venous hypertension, rupture of these dilated venous channels rarely if ever occurs. Certainly it is reasonable to believe that mechanical rupture of esophageal varices is not the sole cause of esophageal bleeding in portal hypertension. It would appear more likely that, at least in some instances and perhaps in the majority of cases, regurgitation of gastric contents with a resultant ulceration of the esophageal mucosa and the underlying thin-walled varix would be a more logical sequence. This latter combination of events has already been suggested by Baronofsky and Wangensteen. They proposed the theory that acid peptic ulceration of esophageal mucosa occurred in these cases, and they have performed gastrectomy in the treatment of these cases as a means of reducing gastric acidity and thus decreasing the probability of esophageal ulceration. This proposal has, however, not been looked upon favorably by certain workers interested in the problem of portal hypertension and the control of hemorrhage resulting from it. In fact, it has been stated that ulceration of the esophagus in portal hypertension has never been observed.

This study was attempted to determine, if possible, the microscopic appearance of the lesions responsible for hemorrhage in a series of cases coming to autopsy at the Ancker Hospital between January 1930 and July

1951. The cases studied were, with 3 exceptions, cases of fatty metamorphosis or cirrhosis of the liver in which massive hemorrhage into the gastrointestinal tract was demonstrated at autopsy and in which esophageal varices were the obvious or presumed cause of the hemorrhage. Excluded from this study were cases in which caustics had been swallowed, in which blood dyscrasias were present, or in which primary or metastatic tumors were found in the gastrointestinal tract.

The clinical histories and the autopsy protocols in this series of 66 cases were first studied and pertinent data were recorded. Twenty-two cases were discarded because of the lack of adequate material for review purposes. In the remaining 44 cases, the filed microscopic slides were reviewed, and the findings were recorded. The preserved specimens were then studied by gross examination and additional tissue blocks were taken for microscopic study. Because of the difficulty in recognizing small breaks in the continuity of the esophageal mucosa, the specimens were stained with 2% fluorescein in the same manner that the ophthalmologist stains the cornea, in order to demonstrate small corneal ulcers. The method was found to be very helpful and frequently multiple minute areas of ulceration could be detected. These were selected and carefully blocked for microscopic section. In some instances the areas of ulceration were large enough to be easily recognized. Only those cases showing definite acute and chronic inflammatory infiltration with or without necrosis were considered positive. No effort was made to differentiate ulceration secondary to esophagitis from acid peptic ulceration.

In 20 of the 44 cases studied definite lesions were found which were thought to account for the bleeding. In 10 cases the lesions were discovered by study of the routine slides on file, and in 10 cases the lesion was demonstrated only after careful examination of the preserved specimens in the manner described. In 19 of the 20 cases the lesions proved to be definite ulcers. In 1 case it was thought that the microscopic picture demonstrated a mechanical rupture of a varix. Fortuitously, it was found that there was a break in continuity of the esophageal mucosa corresponding to a break in the underlying varix, so that there was direct communication between the lumen of the esophagus and the varix with a total absence of inflammatory reaction. There were 3 cases in this series in which no pathologic changes in the liver could be demonstrated on microscopic section despite the fact that esophageal varices were present. In 1 case thrombosis of the portal vein was present. In 2 other cases no explanation for the presence of esophageal varices was found. However, careful dissection of the portal system was not carried out, and a point of obstruction could easily have been missed. It is an accepted fact, however, that varices can occur in the absence of liver or portal vein pathologic changes.

In the remaining 24 cases, the cause of the bleeding could not be demonstrated microscopically in spite of the fact that in some instances

bleeding points had been described grossly. (Surgery, June 1952, T. W. Wagenknecht, J. F. Noble, and I. D. Baronofsky)

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Benign Tumors and Cysts of the Esophagus

Although benign tumors and cysts of the esophagus are relatively uncommon, reports of such conditions have appeared in the literature with increasing frequency as various diagnostic and therapeutic measures have developed. They form an important group, because a good prognosis may be expected following accurate diagnosis and proper therapy. This article summarizes the pertinent features of the reported cases, and adds 2 additional ones.

The majority of these tumors reported in the literature of the nineteenth century were incidental autopsy findings. With the advent of esophagoscopy and roentgenography increasing numbers of clinically recognized and treated cases appeared. During the past 2 decades, as thoracic surgery developed, more treated cases, especially of the intramural group, have appeared.

This review of benign tumors of the esophagus seems to show that they may be divided into two groups: the intraluminal and the intramural. In the former group, most of the tumors are fibrous polyps, although polypoid lipomas and leiomyomas occur. The majority of these are attached in the region of the cricoid cartilage. Sessile intraluminal growths are seen, but rarely, if ever, are of clinical importance. The solid intramural tumors are predominantly leiomyomas and may be found at any level. The intramural cysts are congenital in origin and usually contain derivatives of the primitive foregut. Most of these occur in the middle or lower thirds of the esophagus. Supernumerary tissues, other than gastric epithelium, rarely appear in the esophagus and inflammatory conditions are not common. The tumors, particularly the polyps, may present considerable diagnostic difficulty, but roentgenography and esophagoscopy are helpful. Most of the polypoid tumors may be removed via the esophageal lumen, whereas a thoracic or abdominal approach plus enucleation and/or resection is necessary to treat the intramural growths. Malignant polypoid and intramural tumors occur which clinically can mimic the benign growths. Provided an accurate diagnosis is made and proper therapy employed, a good prognosis may be expected. (J. Thoracic Surg., June 1953, R. S. Totten, A. P. Stout, G. H. Humphreys, II, and R. L. Moore)

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Massive Resection of the Liver

Resection of the liver is rather infrequently performed and total lobectomy has usually been confined to the left lobe. Complete removal of the right and caudate lobes with gallbladder attached, was successfully accomplished in one of the author's cases and apparently represents the rare occasion where these lobes are removed. Primary carcinoma confined to either lobe may be treated by wide excision or preferably by lobectomy. Early exploration is essential, as Lemmer has shown the average duration of symptoms of primary carcinoma of the liver is 7 months from their onset to the death of the patient. The advisability of removing solitary metastatic carcinoma in the liver either at the time of the primary procedure or as a "second look" undertaking is debatable, and certainly should be limited to selected cases. However, there is little to lose by the effort. The removal of metastatic cancer appears justifiable because there is some chance of success, and failure to remove the lesion results in death.

It is admittedly difficult to detect metastases deep in the liver, and the impossibility of being certain that no other metastases are present is granted. However, if resection of the involved liver is possible, the patient is probably better off with this focus of malignancy removed.

Hemangioma is the most common resectable liver tumor, and it also occurs in the liver more frequently than in any other organ of the body. Although often small and symptomless, this lesion may become quite large. These vascular tumors are frequently difficult to remove, and the preliminary use of roentgenotherapy may reduce the size of the tumor considerably and make ultimate removal less formidable.

Adequate exposure of the lesion is necessary for the safe removal of any large liver tumor. Much of the difficulty in controlling bleeding from the liver can be avoided by making the growth accessible. For large resections, the transverse thoraco-abdominal incision described makes possible the complete mobilization of the liver and enables the surgeon to lift this organ out of the wound where it can be more readily dealt with. The author's limited experience with liver resection leads him to believe that the more complicated methods of controlling hemorrhage by tourniquet, mass sutures, and artificial compression of the liver substance are unnecessary. In his cases, the liver was divided with the handle of the knife which exposed the larger vessels and ducts without cutting them. They were then divided between clamps which were tied off, as encountered. In this manner, the difficulty of securing and ligating vessels which retract within the liver substance when divided by sharp dissection, is avoided. No attempt to approximate liver surfaces with sutures was made. It is realized that this method may well be inadequate in dealing with a very vascular tumor, but it is still applicable, provided the resection is carried out through normal liver substance. Garre states that "no method can be introduced into general

surgery unless it can be executed with simple means which every operator has at hand." This method of exposing and resecting the right lobe of the liver at least has the merit of simplicity. (Ann. Surg., June 1953, J.K. Quattlebaum)

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Coin Lesions of the Lung

The importance of small, round, solitary, circumscribed pulmonary lesions which give rise to no symptoms has only recently begun to be appreciated. The practice of taking routine survey chest roentgenograms, widely adopted within the past few years, has made it apparent that such lesions are encountered rather frequently. An increasing interest in these nodules has been stimulated principally by the following 4 facts: (1) Histologic examination has provided proof that they are malignant in a significant percentage of cases. (2) Accumulated experience has shown that pulmonary tuberculomas, which these lesions often prove to be, are best treated by resection. (3) Convincing evidence has been gathered indicating that such masses almost always warrant removal on their own merits, even though they prove to be neither malignant nor of tuberculous origin. (4) Advances in anesthetic and thoracic surgical techniques have occurred which now make it possible to remove silent pulmonary nodules of this type with little risk to the patient.

This article reports a series of 40 consecutive coin lesions of the lung in which the diagnosis was histologically verified. In all but 2 of the patients the mass was surgically excised. The authors' experience tends to provide support for those who maintain that these localized masses of uncertain etiology may be removed with ease and safety. The authors also wish to emphasize again the point that by removing them promptly after their discovery a number of lung cancers will be removed in their early, asymptomatic, and possibly curative stage.

There appears to be a real need for defining this type of lesion so that comparable studies can be evaluated as to: the incidence of cancer, the significance of calcification, the mortality and morbidity rates following surgical treatment, and the fate of patients with nodules of this type who are treated by observation only. The following limiting criteria are proposed: (1) 1 to 5 centimeters in size, (2) round or oval in shape with sharply circumscribed borders, (3) surrounded on all sides by normal appearing lung, (4) producing no symptoms, (5) homogeneous in density or containing calcium, and (6) solitary.

The foregoing definition would restrict the lesions to those which are small in size, round in shape, smooth in outline, and sharply demarcated from the surrounding lung. Any limitation as to size is admittedly an arbitrary one. It is in the group of small lesions, however, that the most diffi-

culty is encountered in arriving at an accurate preoperative diagnosis. In addition, the proper management of patients with these small masses is more controversial than in cases in which the lesions are larger.

The nodule in each of the 40 cases was discovered upon routine x-ray examination of the chest. Tuberculoma was the usual preoperative diagnosis. A malignant tumor was encountered in 7 instances (17.5%). There was no surgical mortality and the postoperative morbidity was minimal. Spread did not occur in any of the patients whose lesion proved to be of tuberculous origin. Five case summaries have been presented in some detail to illustrate the hazards of the watchful waiting program sometimes advocated in cases of this type. Unwarranted reliance on indirect and intuitive diagnostic criteria based on the characteristics of the roentgen shadow, such as calcification and nonenlargement of the lesion, can only serve to deprive the patient of the advantages of early roentgenographic detection. Timely histologic identification is thus not obtained and he is denied the benefits of prompt surgical, antibiotic, and chemical therapy. The authors' own experience and that reported by others has convinced them that surgical excision without undue delay is the treatment of choice in patients with coin lesions of the lung. (Surg., Gynec. & Obst., July 1953, CAPT C. F. Storey (MC) USN, CDR R. A. Grant (MC) USN, and LT B. F. Rothmann (MC) USNR)

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Curare Akinesia in Cataract Operations

The first extensive study of the application of curare to an ophthalmologic problem appears to have been done by Kirby in 1949. In this report, Kirby gave his personal impressions of the use of curare in certain selected cases in which the extraction of cataracts was required. He gave "relaxing" doses of curare to his patients and was favorably impressed with the ophthalmic akinesia that was produced. Since Kirby's report, an increased interest in the ophthalmologic aspects of curare has been evidenced. The literature on this subject, however, is still not large. Clark, Roche, Farquharson, and Cordes and Mullen have reported on the specific use of curare in operations for cataract. Many of the articles about clinical aspects of curare refer to its early effects on the eye. Results of this study tend to confirm this. The extra-ocular muscles appear to be among the first to exhibit the paralyzing effect of curare.

Not generally recognized, or at least not mentioned in the literature, is the fact that the sequence of paralysis induced by curare may be selective with the particular group of muscles concerned with ocular rotation. Thus, not all the skeletal muscles that control movements of the eye and eyelid are affected to a like degree. This was demonstrated in this study by the

fact that the ability of the eyes to rotate upward could be nearly paralyzed, yet the patient still retained some ability to look downward and to squeeze the eyelids. This was a most interesting finding; its possible explanation is intriguing. It seems easiest to explain the differential effect of curare on the function of ocular rotation in a vertical plane and squeezing of the eyelids on the basis of a sequence of paralysis of muscles innervated by different cranial nerves. The seventh cranial nerve, which innervates the orbicularis oculi, apparently was less affected by curare in the majority of patients than was the third cranial nerve and the muscles it innervates. To explain the differential effect on upward and downward rotation of the eye on this basis is somewhat more difficult.

As a rough guide to those who might try the drug, the author proposes that it be administered intravenously at a rate not to exceed 0.5 cc. (1.5 mg.) per minute after an initial injection of 1.0 cc. (3.0 mg.).

Contraindications to administration of curare to patients who have cataracts are few but definite. Even though several asthmatic patients were successfully operated on, patients who had difficulties in respiratory exchange were, as a whole, extremely hard to handle. The author has discontinued administration of curare to any individual who has chronic bronchitis, atelectasis, bronchiectasis, asthma, or pneumothorax. On the other hand, curare was given without complication to patients who had all varieties of cardiac and vascular difficulties. Such conditions as auricular fibrillation, severe hypertension, cardiac enlargement, generalized arteriosclerosis, angina pectoris, disease of the coronary arteries, and valvular cardiac disease did not prove to be contraindications to administration of curare.

One of the obvious drawbacks from a practical standpoint to use of curare in operations for cataract is the need for someone to supervise the injection of the solution. In this study, an anesthesiologist supervised this phase of the procedure; however, once an ophthalmologist becomes familiar with the use and behavior of curare anyone should be able to administer the drug intravenously under the direction of the ophthalmic surgeon. Still, this need for another person to supervise administration of the drug is a factor that may prevent general utilization of this method of akinesia by ophthalmologists. Any procedure concerning surgical technique in removal of cataracts that is not under direct control of the surgeon is a definite drawback in the opinion of many ophthalmologists.

Several publications concerning akinesia induced by curare include statements that a discussion of antidotes has no place because, if the drug is administered correctly, no need for antagonists of curare exists. No matter how skillfully a drug may be administered, instances of undue sensitivity to even small amounts will be encountered when it is given to a large enough group of patients. In this study, 1 patient experienced respiratory embarrassment after receiving 1.5 cc. (4.5 mg.); in several patients, it seemed advisable to administer neostigmine. The neostigmine was given

in conjunction with artificial respiration by means of positive pressure. Until recently, neostigmine was the drug most widely used as an antagonist of curare, although from a pharmacologic standpoint it was known to have several drawbacks as to its specificity and reliability for such purpose. Now a commercial preparation, N-ethyl-N-(m-hydroxyphenyl)-N, N-dimethylammonium bromide (Tensilon), is available which by preliminary clinical trial, appears to have a more specific and faster effect against paralysis of peripheral muscles than any other drug at present. Although it has not been necessary to use Tensilon in this study, it is another safety factor that insures safer use of curare and is of reassurance to the surgeon in time of need. (Am. J. Ophth., June 1953, Part I, J. W. Henderson)

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Roentgenological Findings in Tuberous Sclerosis

Tuberous sclerosis is a rare disease due to an abnormal development of the germinal layers primarily involving the ectodermal structures. The most common clinical findings are mental deficiency, convulsions, and adenoma sebaceum. This syndrome is referred to as epiloia.

A review of the literature shows that 361 cases have been reported since 1922. This article adds 5 new cases to the literature and reviews 3 others in which the roentgenographic findings in the hands and feet were not reported originally.

Almost every organ and structure of the body has been reported to have been involved in this disease. In 80% of the cases pathologic changes have been described in the brain or kidney as demonstrated either roentgenologically or at autopsy; these are the best-known lesions in the disease. In 65% of the cases roentgenographic changes have been shown in the hands or feet; these lesions are not well known. A roentgenologic diagnosis can be established by correlation of the x-ray findings in the skull and those in the hands or feet; no other disease presents this association.

Microscopic examination of decalcified sections of bone shows thick trabeculae within the cancellous bone. The calcium content is low, with few cells visible within the bone spaces. Diffuse fibrous tissue, also poor in cells, is seen within these spaces, giving the appearance of cystic changes. Hyalinized connective tissue in irregular layers, producing some fragmentation of the cortex, is seen toward the surface of the bone.

The most common ectodermal lesions are those observed in the brain. Smooth, firm nodules of various shapes and sizes are seen on the surface. These also may be found in the walls of the ventricles, producing the characteristic "candle gutterings" frequently demonstrable in ventriculograms. Grossly, the sulci and gyri show no deformity. Microscopically, there are giant nerve cells in both the gray and the white matter. The pyramidal

cells are decreased and the Cajal cells are increased in number. There also are patchy and coalescent areas of destruction of the myelin sheaths. Wertham, cited by Ross and Dickerson, believed that the disorganization occurs in the fifth and sixth months of gestation. Nodules are frequently seen in the fundus of the eye; they may be multiple or single and often resemble a cluster of grapes. These were first called "phakomas" by van der Hoeve. Mesodermal involvement usually results in tumor formation. Tumors have been described in every organ of the body. The renal tumors are of the mixed embryonal type.

The incidence of the disease is estimated to be about 0.0002% of the general population, about 0.1% of the admissions to institutions for the care of the feeble-minded and epileptic in America, and about 0.6% of such admissions in Europe. The disease may be hereditary or familial, and the sex distribution is equal. The three patients whose cases are reviewed were all siblings from one family.

Clinically the disease may first manifest itself in infancy or in adult life. In one case the presenting symptom occurred at the age of 49. A mild or major convulsion may be the first symptom. Skin lesions of acneiform type are not present in infancy, because the sebaceous glands are not developed; however, adenoma sebaceum develops with the appearance of the sebaceous glands. The skin lesion may resemble a fine acne rosacea, assuming a butterfly distribution over the face, or it may be a large, confluent, resilient tumor of the skin. The latter type of lesion may be painful in cold weather. Other skin lesions are pigmented nevi; large areas of pigmentation, most commonly found over the sacral region; filiform papillomas of the nail beds; pedunculated polyps, and subcutaneous nodules. It is rare to make a diagnosis without the skin lesions. Almost all patients are mentally retarded and may frequently become behavior problems. Occasionally, however, such patients may present normal mentality and good insight. Other findings frequently encountered are spina bifida, polydactyly, harelip, cleft palate, renal tumors, visual disturbances due to phacomas, and cardiac anomalies.

The roentgenographic findings of calcification within the brain are well known; however, less attention has been given in the literature to the osseous changes which occur in this disease. Roentgenographic findings in the bony structures of the hands and feet may be divided into three groups: (1) cyst-like changes in the phalanges with or without osteoporosis; (2) irregular cortical thickening of the metatarsals, metacarpals, or phalanges without active periosteal reaction, and (3) a mixed type, consisting of cortical thickening with fragmentation. (Arch. Neurol. & Psychiat., June 1953, H. I. Berland)

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Roentgen Findings in Neuroblastoma

Fifty histologically proved cases of peripheral neuroblastomas with adequate roentgen film coverage have been studied from the standpoint of the x-ray diagnosis. The earlier findings of Wyatt and Farber pertaining to roentgen diagnosis have been substantiated and extended.

A roentgenologist should consider a diagnosis of neuroblastoma if the patient is an infant or young child with x-ray evidence of an abdominal mass, adenopathy, orbital or eye tumor, and bilateral involvement of the bones. If well-developed changes are present in the skull, they alone can be considered reliable for a diagnosis. Only slightly less reliable is the presence of a mass in the adrenal area with calcification. Of equal reliability is the presence of bilateral, symmetrically placed areas of bone destruction showing ill-defined borders, cortical destruction, periosteal reaction, a fine, patchy internal pattern, located most often in femora and humeri, soft-tissue mass formation, and a rapid progression of the lesion, with some evidence of response to x-ray treatment. It is upon the detection of one or more of these three features that the roentgenologist must rest his diagnosis. Because most patients with neuroblastoma present two or all of these features in a more or less well-developed fashion, it is the authors' belief that most cases of neuroblastoma are diagnosable with assurance by the roentgenologist.

Wyatt and Farber concluded that there is no characteristic roentgen picture of the primary neuroblastoma. The authors believe this to be true except in those circumstances when the roentgenologist can reliably identify the presence of a mass in the adrenal region with calcification, and this could be done in about 10% of their cases. Wyatt and Farber also state when bilateral symmetrical metastases to bone are present, a tentative diagnosis of neuroblastoma can be made in most instances. The authors' findings substantiate this opinion. They believe furthermore that when the roentgen features of the bone metastases are determined minutely, even greater dependence can be placed upon them; when fully developed they regard them as quite specific. In addition to these points made by Wyatt and Farber, the authors wish to emphasize the specificity of the skull changes and the fact that most neuroblastomas will show a combination of many, if not all, of these and other important roentgen findings at one and the same time. In the authors' experience most cases of neuroblastoma can be diagnosed without hesitation by the roentgenologist if the roentgenograms are of good quality and if the coverage has been sufficiently thorough. (Radiology, June 1953, R. S. Sherman and R. Leaming)

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Infantile Diarrhea

A study of 289 cases of infantile diarrhea in a severely malnourished group of infants is presented. The methods of examination and treatment outlined and the results evaluated. The effect of the nutritional deficiencies on the course and outcome of the disease is stressed.

Treatment consisted of intravenous fluid therapy, dietetic therapy, and antibacterial therapy.

Of the 289 infants admitted to the service 231 recovered and 58 died.

The fact that the large majority of these babies were nutritionally deficient in many respects had its bearing on those who recovered as well as on those who died. This expressed itself in the length of the hospital stay on the one hand and in the mortality rate on the other.

Of those who recovered less than half were discharged within the first month of admission, while the rest remained in the service for 2 and even 3 months and a few remained even longer. That this unusually prolonged period in the hospital was not due to the diarrhea itself is shown by the fact that in 61% the diarrhea stopped within the first 10 days, in 82% it stopped within the first 20 days, and in less than 7% it continued beyond the first month, as compared with over 50% who remained in the service that long. On the other hand, 37 infants, constituting about 13% of total admissions, had relapses during their hospital stay, requiring renewed intravenously administered fluid therapy. Most of these relapses occurred during the third and fourth week of the hospital stay, but 6 out of the 37 had another relapse about 2 weeks after their first relapse. The various nutritional deficiencies no doubt had a deleterious effect upon the length of the period of diarrhea and upon the relapse rate as well as upon the frequency and severity of parenteral infections and infectious complications. All these factors had their effect on the length of the hospital stay, but, in addition, the nutritional deficiencies in themselves constituted the direct and main cause for the excessive prolongation of the hospital stay in about 60% of the patients.

The over-all mortality rate for the 2-year period was 20% with a corrected mortality rate of 9%.

The author pointed out previously the lack of relationship in this group between the mortality rate and the severity index, and this was accounted for by the type of human material that composed the series. This same fact easily accounts for the rather high mortality rate in this series as compared with most modern series. It also accounts for the difference in mortality rate between the 2 years separately, because the deficiencies of the infants admitted in 1950 were more severe than those of the infants admitted in 1951. Thus, while in 1950 the corrected mortality rate was 12%, it was only 6.5% in 1951. (Am. J. Dis. Child., June 1953, A. Friedman, Haifa, Israel)

Fluorescence Microscopy

Fluorescence microscopy as a diagnostic aid in tuberculosis has yet to receive universal support. For example, Lind reports that only 2 of 24 State laboratories in the United States which tested the method consider it superior to the conventional Ziehl-Neelsen technique. Like all newer techniques it requires careful appraisal before it can replace well-tried, older methods. Interest in this method has increased since Matthaei of the University of Melbourne successfully adapted routine optical equipment and lighting to overcome economic and technical obstacles to its use. Five years of satisfactory application to routine diagnosis in the Public Health Laboratory at Victoria has firmly established the material advantages of the method over direct-light microscopy and Ziehl-Neelsen staining. In contrast to Lind's conclusion that fatigue is one of the important factors, the author is convinced that, provided critical illumination is obtained, fatigue is far less than that experienced with Ziehl-Neelsen examinations.

More recently the interest of Melbourne pathologists has been aroused in the possible application of fluorescence microscopy to the study of tuberculous tissues, but reports to date are somewhat conflicting. In tissues showing characteristic tuberculous pathologic changes, it has not been unusual to fail to detect tubercle bacilli at all, or to see only ghost forms of little or no diagnostic significance.

In experiments involving the detection of small numbers of tubercle bacilli in dispersed cultures and in tuberculous exudates by the intranasal inoculation of mice, it became necessary to confirm the tuberculous origin of lung tubercles. The apparent incidence of sampling errors in direct smears of the cut lung surface suggested the advisability of examining sections. Early successes with fluorescence microscopy, followed by variable results and failures, led the author to determine the optimal conditions for use of the method. For, when properly carried out, the fluorescence microscopy method possesses obvious advantages over Ziehl-Neelsen staining performed in parallel with it. The successful application of the method to tuberculosis led to a study of other acid-fast pathogens, also with satisfactory results.

Fluorescence microscopy reveals even small numbers of the common species of Mycobacteria in tissue sections very readily. The usefulness of this technique lies in the large numbers of organisms visible and the ease with which they are seen, owing to the striking color contrast between the bacteria and the tissue, even under the low-power objective. If the bacilli are few in number, they may be missed altogether in Ziehl-Neelsen staining.

Bacilli can usually be detected, unless they occur singly in very small numbers, within a few seconds using a X5 or X7 eyepiece and a 16 mm. objective. Confirmation is afforded with a 4 mm. dry objective.

The method is simple, but care is essential in certain steps. Failures are usually traceable to the use of organic solvents prior to mounting, the use of mounting agents which exert a decolorizing action on stained bacilli, or to loss of caseous portions of the section through careless washing.

Mycobacteria of any species stained by the Ziehl-Neelsen method show little or no tendency to surrender carbolfuchsin to organic solvents.

The method is recommended for routine examination of potentially tuberculous tissue and for the detection of other pathogenic Mycobacteria in sections. (Am. Rev. Tuberc., July 1953, D. F. Gray, Victoria, Australia)

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A Photographic Method of Recording Red Cell Counts

This article describes a method of recording red cell counts photographically and presents statistical evaluations of the accuracy of the method.

It is frequently necessary to perform large numbers of red cell counts during a relatively short period of time in the course of studies utilizing the technique of differential agglutination of erythrocytes. A variety of other experiments also involve large numbers of red cell counts. Attempts to conduct such experiments in this laboratory by employing large numbers of technicians of varying degrees of skill have frequently failed because of systematic errors in counting introduced by some of the less skilled persons. In an attempt to overcome this difficulty, a method has been developed for photographing the red cells in the counting chambers for later enumeration. This method permits the most skilled of the technicians to enumerate the cells from the photographic record at a leisurely rate. Fatigue is minimized by counting the cells over a longer period. Once a photographic record is prepared, moreover, counting may be postponed if other activities in the laboratory so demand. Because a permanent record is provided by the photographs, repeated recounting of the squares of the chambers can be carried out by the same or another person to minimize errors of enumeration.

There is little question that the direct and photographic red cell counting methods do not give identical results. Hirsch and coworkers presented a similar photographic method in 1950 and concluded that its accuracy was less than that of direct visual counting. On the basis of the present data, it is impossible to determine absolutely which method gives a closer approximation to the "true" count. It can only be inferred that the direct visual method may give more accurate results. Results obtained by either method are probably strongly dependent upon variable, poorly understood, and poorly controlled psychologic factors affecting the technician. An elaborate experimental and statistical evaluation of both techniques would be required to evaluate the effect of these factors for any one technician in

a given experimental situation. It is obvious that there is a real error of enumeration present in both methods. This error may vary with the absolute level of the count. However, the difference between the two methods is of a relatively small order, regardless of which method may be the more accurate. Thus, the authors believe the method is sufficiently accurate to be useful in many experiments involving red cell counting. Furthermore, in experiments requiring large numbers of red cell counts, it is possible that, with direct counting methods, errors introduced by fatigue of technicians may be much greater than any inherent errors of the photographic method, making the latter method clearly the one of choice in such situations. It should be emphasized again that this method is not conservative of time, effort, or expense, or necessarily more accurate than the direct method of enumeration. It offers a real advantage, however, in situations requiring the recording of large numbers of counts in a short period of time. (J. Lab. & Clin. Med., June 1953, S. N. Swisher and M. J. Izzo)

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Abstracts From Field Reports

The following officers each have received the Legion of Merit for their outstanding surgical treatment of casualties in Korea: Commander Roald N. Grant (MC) USN, Lieutenant Ray V. Grewe (MC) USNR, Lieutenant William S. Ogle (MC) USNR, and Lieutenant (junior grade) Frank C. Spencer (MC) USNR.

A program has been initiated in the First Marine Division whereby naval medical officers are sent to the Republic of Korea Naval Hospital in Chinhae, Korea. These medical officers instruct the ROK medical officers in the latest methods of anesthesiology and surgery.

An initial group of three doctors were selected especially for their diplomacy, medical and surgical skill, and their motivation as indicated by volunteering even after the difficulties and unusual problems were stressed. They were allowed to choose four corpsmen including two operating room technicians.

How well they succeeded may be indicated partly by the report of this first group, partly by the fact that a third group is now in residence at Chinhae for the 2-week period, and partly by the Korean Surgeon General's response. He was enthusiastic, urgently requesting that the program be continued. He was also asked to select five Korean naval medical officers for assignment each to one of the medical companies in the Division. The five promptly arrived where they are now being integrated into the respective organizations. They have proved to be apt and willing students for the most part and are flattered at the assignment.

Captain Walter R. Miller (MC) USN gave a paper entitled "Intramedullary Pinning of Fractures" before the Korean Medical Society in Pusan, Korea, on 30 May 1953.

Lieutenant (junior grade) Richard A. Lavin (MC) USNR gave a paper "Experience in Anesthesia at a Forward Medical Company" and Lieutenant (junior grade) Daniel E. Mahaffey (MC) USNR gave a paper "Treatment of Arterial Injuries" before the "38th Parallel Medical Society" on 21 June 1953.

Aside from approximately 1,000 cases of mild diarrhea which developed from flood waters overwhelming the water-treatment systems shortly after arrival in the new reserve area, the health of the Division has been surprisingly good. Especially in view of the geographic proximity to rice paddies, civilian villages with open heads, and other hazards such as large numbers of prostitutes. Sanitation representatives were sent into these civilian communities as necessary. Careful attention to screening, sanitation, and internal cleanliness within the adjacent camps would have otherwise been greatly neutralized.

The venereal rate for this week is 112 cases with 23 of these originating in Japan and all but 14 being gonorrhea, the others being chancroid. This gives a rate of 3.8 per 1,000 per week or 15 (plus) per 1,000 per month or about 186 per 1,000 per year. In Kyoto, 3 miles from the Rest and Recuperation site of Camp Fisher, there are over 4,500 card-carying (public health supervised) prostitutes. This is only one of about five centers including Kobe, Otsu, Itami, and Takatsuki located within a 35-mile radius. However, a most effective and realistic campaign is being carried out against this problem.

Captain Robert W. Babione (MC) USN and Lieutenant (junior grade) Thomas D. Head (MC) USNR have reported to the First Marine Division for epidemiological studies in Korea. Captain Babione has prepared a working model of applied field sanitation established in a natural site and located within the present reserve area of the Division wherein the advantages of undisturbed terrain and flora were largely utilized rather than destroyed. This exhibit was conceived as an example of simple but adequate methods of constructing showers, washing and clothes-dipping facilities (for the miticide dimethyl-phthallate), sand box filtration for water, various types of excremental and urinal disposal facilities, ideal galley installation features, proper grease traps, et cetera. In addition there is a pool for the cultivation of mosquito larvae, sections of which are treated consecutively just prior to the larvae developing into free-flying forms. This serves to provide a constant source of biological material as well as demonstrating the effectiveness of spray controls. At the termination of the exhibit's itinerary is a shelter where a short lecture is given and where charts and samples of all types of insecticides and antibiological poisons and toxic agents are displayed and described. The display has been properly im-

plemented and described by attractive signs erected to point out important details in construction and use. Plans are now being made to insure its care in perpetuity.
(The foregoing are excerpts from letters to the Bureau from Captain Walter R. Miller (MC) USN, Division Surgeon, 1st Marine Division (Reinf), FMF)

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Navy Hospitalman Awarded Medal of Honor Posthumously

Hospitalman John Edward Kilmer, USN, of San Antonio, Texas, who gave his life to save a wounded Marine comrade in Korea, was awarded the Medal of Honor in ceremonies, 8 July 1953, held in the Pentagon.

Secretary of the Navy, Robert B. Anderson presented the Nation's highest award on behalf of the President and in the name of the Congress to the hero's mother, Mrs. Lois B. Kilmer, of San Antonio. She was accompanied by another son, Staff Sergeant Robert Kilmer, USMC.

Hospitalman Kilmer was serving as a medical corpsman with a rifle company of the First Marine Division 13 August 1952 when Communist troops attacked the Americans who were defending a strategic hill. In the face of withering enemy fire, Kilmer moved from position to position aiding the wounded and expediting their evacuation.

Although wounded by enemy mortar fire, Kilmer crawled through a barrage of shells to the side of a stricken Marine to whom he administered medical aid. As the immediate area was again blasted by the Communists, Kilmer shielded the wounded rifleman with his own body. He saved his comrade, but was himself mortally wounded.

Kilmer, the third Navy man to be awarded the Medal of Honor in the Korean war, was born at Highland Park, Illinois, on 15 August 1930. He entered the naval service at Houston, Texas, on 16 August 1947.

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Change of Address

Please forward request for change of address for the News Letter to: Commanding Officer, U. S. Navy Medical School, National Naval Medical Center, Bethesda 14, Maryland, giving full name, rank, corps, and old and new addresses.

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Course in Pharmacy and Materia Medica (NavPers 10817)

The Medical Department correspondence course entitled "Pharmacy and Materia Medica" is now available. Application for enrollment in this course should be made on form NavPers 992, and forwarded via official channels to the Correspondence Training Division, U. S. Naval Medical School, National Naval Medical Center, Bethesda 14, Md.

This correspondence course is intended for officers and enlisted personnel of the Navy Medical Department. However, it is designed primarily for the enlisted members of the Hospital Corps of the U. S. Navy and Naval Reserve.

This course should further the knowledge of enlisted personnel, especially Hospital Corpsmen First Class and Hospital Corpsmen, Chief, and help them perform their duties more efficiently, serve as a foundation for further study, and awaken in them a deeper appreciation of their professional responsibilities.

The complete course consists of 8 assignments of the objective type and is evaluated at 24 points for purposes of Naval Reserve promotion and nondisability retirement. (NavMedSch, NNMC)

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From the Note Book

1. A group of 411 consecutive cases of gastric ulcer in which surgical resection was performed is reported. The incidence of malignant ulcer in this group was 15.8%. (Ann. Surg., June 1953, S. F. Marshall)

2. Fifteen patients with long-standing angina pectoris were treated with several oral Khellin preparations. The authors findings appear to indicate that Khellin in moderate or large oral doses has no significant favorable effect on the frequency or severity of anginal pain in patients with chronic coronary insufficiency. (J. Mt. Sinai Hosp., New York, May-June, 1953, G. C. Leiner and S. Dack)

3. A report presenting 27 cases of neurological illness following smallpox vaccination appears in the Archives of Neurology and Psychiatry, June 1953, H. G. Miller, Newcastle, England.

4. The number of poliomyelitis cases reported for the week of 4 July is 625 as compared with 620 for the same week last year. The cumulative total since the seasonal low point is 3,166 as compared with 2,981 for the same period in 1952, an increase of 6%. Two geographic divisions showed a decrease in the number of reported cases for the current week as com-

pared with the week ending June 27. Three of the four States in the East South Central Division, including Alabama, reported a decrease. The Pacific Division also showed a decline in incidence. All other divisions had an increase in number of reported cases, especially the South Atlantic. Individual States which showed a substantial increase over the previous week were: New York, Michigan, Minnesota, Iowa, Nebraska, Virginia, South Carolina, Florida, Oklahoma, and Texas. The States showing a decline in numbers were: Pennsylvania, Missouri, Alabama, Mississippi, Louisiana, and California. (P. H. S., Dept. of H. E. W.)

5. Fatigue in jet pilots, aging and retirement of aircrew members, and survival in the jungle are a few of the important problems in aviation medicine that will be discussed by some of Europe's best qualified aeromedical scientists at the second annual Interim Meeting of the Aero Medical Association to be held in Brussels, Belgium, 24-27 Sept 1953. The scientific sessions will be conducted at the University of Brussels Medical School. The meeting is expected to attract a large number of flight surgeons on duty in Europe with the U. S. Navy and Air Force as well as many specialists in aviation medicine from the United States. Rear Admiral Bertram Groesbeck, Jr., (MC) USN (Ret.), Indiana State Director of Health, is President of the Association.

6. Aircraft Recognition, NavPers 10955-A is now available at the Naval Correspondence Course Center. In 5 assignments the course covers recognition features of the important military, naval, and commercial aircraft. (Naval Training Bulletin, June 1953)

7. The following naval medical officers have recently been certified in their specialties by American Boards: CDR L. H. Barber (MC) USN, LTJG L. H. Fitzgerald (MC) USNR, and LTJG W. Francke (MC) USNR, American Board of Radiology; CDR S. L. Arje (MC) USN, LCDR C. E. Weber (MC) USN, LT J. H. Lee, Jr. (MC) USN, LT L. G. Roth (MC) USN, and LTJG S. P. Weinberg (MC) USNR, American Board of Obstetrics and Gynecology; LT G. H. Hilbert (MC) USNR, American Board of Pathology; LT A. C. Mermann (MC) USNR, American Board of Pediatrics; LTJG D. R. Fitch (MC) USNR, American Board of Internal Medicine; LTJG W. H. Oldendorf (MC) USNR, American Board of Psychiatry and Neurology; LTJG J. C. Vest (MC) USNR, American Board of Thoracic Surgery; and LTJG L. W. Whitney (MC) USNR, American Board of Surgery. (TIO, Bu-Med)

8. Colonel Robert J. Benford, USAF(MC) has been appointed editor of the U. S. Armed Forces Medical Journal. Colonel Benford relieved Colonel Wayne G. Brandstadt (MC) USA on July 1, 1953. (OPI, DOD)

9. An article presenting the results obtained in 34 cases of chronic auricular fibrillation treated with quinidine in an attempt to restore and maintain sinus rhythm appears in the American Journal of the Medical Sciences, June 1953, C.A. Fleischmann.

10. The Lancet of 13 June 1953 contains a description of a case of poliomyelitis described by the physician contracting the disease.

11. A case of a bleeding disease in a girl closely simulating hemophilia both clinically and in laboratory findings is presented in the American Journal of Diseases of Children, June 1953, A.J. Quick and C.V. Hussey.

12. "Survey films" of the abdomen are frequently of great aid in the diagnosis of biliary and renal lithiasis, bowel obstruction, ileus, peritonitis, abscess, and ruptured viscus. Four films are necessary: a high and low supine film; an upright film, and a postanterior chest film. (Surg., Gynec. & Obst., July 1953, W.W. Sands)

13. The use of perirenal insufflation in urologic diagnosis with complete outlines of lumbar and sacral technics is discussed in the Journal of the International College of Surgeons, June 1953, J.S. Ritter and A.A. Johnson.

14. A technic of partially penetrating keratoplasty is described in 5 cases reported in detail illustrating details of the operative technic and postoperative care. (Am. J. Ophth., June 1953, L. Daily, Jr. and R.K. Daily)

15. The Public Health Service's new Clinical Center at Bethesda, Md. was formally dedicated by the Secretary of the Department of Health, Education, and Welfare at ceremonies held 2 July 1953. On July 6, the first patients were received in the 14-story medical research center, which combines specially designed space and equipment for laboratory and clinical investigations with facilities for the care of 500 patients. The new Clinical Center is designed to strengthen the efforts to solve the problems of cancer, mental illness, arthritis, heart disease, and other long-term illnesses under research programs conducted by the National Institutes of Health. (P.H.S., Dept. of H.E.W.)

16. On the basis of data from the recently completed cancer morbidity studies covering 10 major population areas, National Cancer Institute statisticians estimate that more than half a million new cases of cancer will be diagnosed in 1953. The studies show that survival of cancer patients depends largely on the stage of disease at time of diagnosis. (P.H.S., Dept. of H.E.W.)

BUMED INSTRUCTION 6120.3A 22 June 1953

From: Chief, Bureau of Medicine and Surgery
Chief of Naval Personnel
To: Ships and Stations Having Medical/Dental Personnel Regularly Assigned

Subj: U.S. Naval Academy; physical examinations for

Ref: (a) Art. 15-43, ManMedDept
(b) Art. 15-43 (1) (d), ManMedDept
(c) Art. 15-43 (4) (a), ManMedDept
(d) Art. 15-43 (3) (b) (1), ManMedDept
(e) Art. 15-43 (5) (b) (2), ManMedDept
(f) Art. 15-43 (5) (b) (3), ManMedDept
(g) Art. 15-43 (6) (b) (2), ManMedDept
(h) Art. 15-43 (5) (a) (5), ManMedDept

This instruction establishes procedures and reporting methods for processing the final physical examinations of civilian candidates for admission to the U.S. Naval Academy. BuMed Instruction 6120.3 of 11 Feb 1953 is cancelled.

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BUMED NOTICE 6320 29 June 1953

From: Chief, Bureau of Medicine and Surgery
To: All Activities Having Facilities for In-patient or Out-patient Care of Dependents

Subj: Medical care for mentally ill dependents of members of the Armed Forces; request for information concerning

Ref: (a) Sections 4 and 5 of the Act approved May 10, 1943 (24 U.S.C. 34, 35)
(b) Memorandum from Assistant to the Secretary of Defense (Health and Medical) dated May 4, 1953 to the Surgeons General, Army, Navy and Air Force

This notice desires data concerning cases of inability to procure state or local hospitalization for mentally ill dependents.

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BUMED INSTRUCTION 1500.4 30 June 1953

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical Corps and Dental Corps Personnel Regularly Assigned

Subj: Nonnaval professional examinations and memberships in civilian professional societies for medical and dental officers; reporting of

This instruction informs medical and dental officers of the requirement for furnishing the Bureau of Medicine and Surgery information relative to nonnaval professional examinations and memberships in civilian professional societies. BuMed C/L 52-37 is cancelled.

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BUMED INSTRUCTION 6320.11 2 July 1953

From: Chief, Bureau of Medicine and Surgery
Chief of Naval Personnel
Commandant of the Marine Corps
To: All Stations Continental United States

Subj: Transfer of naval patients to Veterans Administration Hospitals

Ref: (a) Memo from President to Sec of Defense of 3 Feb 1951 on utilization of beds in VA hospitals for military patients
(b) Art. 23-303, Items 617 and 629, ManMedDept
(c) Chapter 16, ManMedDept
(d) Instructions governing NavMed-F (NavMed-P-1313)

Encl: (1) Form letter of notification of transfer of subject patients
(2) Executive Order 10122 as amended

This instruction establishes uniform procedures for the transfer of certain personnel on the active and retired lists of the Navy and Marine Corps, including the reserve components thereof, from naval hospitals to VA hospitals and the administration of their records and accounts while so hospitalized. BuMed C/L 50-98, 50-104, 50-142, 51-81, and 51-91 and Joint BuMed-BuPers-MarCorps letter (BuMed C/L 51-69) are cancelled.

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BUMED INSTRUCTION 6230.5 7 July 1953

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Globulin, poliomyelitis, immune (human), Stock No. 1-605-525, for the prophylaxis of acute anterior poliomyelitis in military personnel and in dependents of military personnel

This instruction provides guidance for the use of poliomyelitis immune globulin in the prophylaxis of acute anterior poliomyelitis.

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